hydrological models for identifying the basins in which water shortages are likely to occur over the next thirty to fifty years. The assumptions need to consider the possibility of flow alterations due to climate change and land use change and the high uncertainty surrounding demand projections so that there is widespread consensus that any basin that passes the test is extremely unlikely to have systems run short of water or have to implement emergency water shortage plans. Third, the models also need to incorporate the findings of the instream flow technical working group recommended under the "clarify goals" recommendation, above. Fourth, the withdrawal permit program needs to be integrated with the models so that new major withdrawals are not permitted unless they fit within the water budget for each basin. If a proposed new withdrawal "breaks the budget" for a basin, then the basin planning group must have a chance to evaluate ways to accommodate the new withdrawal and maintain the budget for the basin.

5. Simplify and integrate water and water-funding information

LWSPs (submitted to DENR), which may include operation and maintenance plans and capital and improvement plans, should be better integrated with financial data (submitted to the Local Government Commission (LGC) in the Department of the State Treasurer), which include asset management, depreciation, and revenues. See also the recommendations on enhanced oversight by the LGC. Plans without financing will not be implemented. G.S. § 159G-23(6) requires funders of clean water grants and loans to consider "sound (fiscal) management." State grant funds are generally restricted to helping water systems address existing problems. Water systems are expected to use local funds to pay for water infrastructure to serve new growth.

The Water Allocation Study team recommends that the North Carolina League of Municipalities, the North Carolina Association of County Commissioners, private water systems, and DENR: (1) inventory state and US EPA water-reporting requirements, (2) identify and phase in both electronic reporting to DENR and provide information to the public on websites and other means, and (3) develop and begin to implement a plan to consolidate as much water data as possible into one comprehensive Water System Report to the state and the public.

Improved LWSPs could also become a basis for water systems to provide data to state and federal agencies for permit decisions and preparation of environmental documents. LWSP data could be plugged into permit applications and environmental documents, saving time for both applicants and reviewers. For example, when the Division of Environmental Health's Public Water Supply Section reviews plans for water treatment plants and waterline extensions, it assumes that the applicant has analyzed its ability to supply the water source for the new facilities. An improved LWSP, in conjunction with DWR basin modeling results, would provide more assurance to DEH that the water source is truly available.

LWSPs should disclose the assumptions underlying risk management and/or safe yield calculations. DWR could convene a group of stakeholders, including water systems, university researchers, and private